SEQUENCE LISTING

<110> Reed, John

<120> Regulation of BCL-2 Gene Expression

<130> 10412-011

<140> 09/375,514
<141> 1999-08-17

<150> 09/080,285
<151> 1998-05-18

<150> 08/465,485
<151> 1995-06-25

<150> 08/124,256
<151> 1993-09-20

<150> 07/840,716
<151> 1992-02-21

<150> 07/288,692
<151> 1998-12-22

<160> 29

<170> PatentIn version 3.0

<210> 1
<211> 20
<212> DNA
<213> Homo sapiens

<400> 1
cagcgtgcgc catccttccc   20

<210> 2
<211> 35
<212> DNA
<213> Homo sapiens

<400> 2
cttttcctct gggaaggatg gcgcacgctg ggaga   35

<210> 3
<211> 20
<212> DNA
<213> Homo sapiens

<400> 3
gatgcaccta cccagcctcc   20

<210> 4
<211> 33
<212> DNA
<213> Homo sapiens

<400> 4
acggggtacg gaggctgggt aggtgcatct ggt   33

```
<210>   5
<211>   20
<212>   DNA
<213>   Homo sapiens


<400>   5
acaaaggcat cctgcagttg                                                    20

<210>   6
<211>   36
<212>   DNA
<213>   Homo sapiens

<400>   6
cccccaactg caggatgcct ttgtggaact gtacgg                                  36

<210>   7
<211>   20
<212>   DNA
<213>   Homo sapiens

<400>   7
gggaaggatg gcgcacgctg                                                    20

<210>   8
<211>   17
<212>   DNA
<213>   Homo sapiens

<400>   8
cgcgtgcgac cctcttg                                                       17

<210>   9
<211>   17
<212>   DNA
<213>   Homo sapiens

<400>   9
taccgcgtgc gaccctc                                                       17

<210>   10
<211>   17
<212>   DNA
<213>   Homo sapiens

<400>   10
tcctaccgcg tgcgacc                                                       17

<210>   11
<211>   17
<212>   DNA
<213>   Homo sapiens

<400>   11
ccttcctacc gcgtgcg                                                       17


<210>   12
<211>   17
```

```
<212>   DNA
<213>   Homo sapiens

<400>   12
gacccttcct accgcgt                                               17

<210>   13
<211>   17
<212>   DNA
<213>   Homo sapiens

<400>   13
ggagaccctt cctaccg                                              17


<210>   14
<211>   15
<212>   DNA
<213>   Homo sapiens

<400>   14
gcggcggcag cgcgg                                                15

<210>   15
<211>   15
<212>   DNA
<213>   Homo sapiens

<400>   15
cggcggggcg acgga                                                15

<210>   16
<211>   16
<212>   DNA
<213>   Homo sapiens

<400>   16
cgggagcgcg gcgggc                                               16


<210>   17
<211>   18
<212>   DNA
<213>   Homo sapiens

<400>   17
tctcccagcg tgcgccat                                             18

<210>   18
<211>   18
<212>   DNA
<213>   Homo sapiens

<400>   18
tgcactcacg ctcggcct                                             18

<210>   19
<211>   5086
<212>   DNA
<213>   Homo sapiens
```

<400> 19

```
gcgcccgccc ctccgcgccg cctgcccgcc cgcccgccgc gctcccgccc gccgctctcc        60

gtggccccgc cgcgctgccg ccgccgccgc tgccagcgaa ggtgccgggg ctccgggccc       120

tccctgccgg cggccgtcag cgctcggagc gaactgcgcg acgggaggtc cgggaggcga       180

ccgtagtcgc gccgccgcgc aggaccagga ggaggagaaa gggtgcgcag cccggaggcg       240

gggtgcgccg gtggggtgca gcggaagagg gggtccaggg gggagaactt cgtagcagtc       300

atcctttta ggaaaagagg gaaaaaataa aaccctcccc caccacctcc ttctccccac       360

ccctcgccgc accacacaca gcgcgggctt ctagcgctcg gcaccggcgg gccaggcgcg       420

tcctgccttc atttatccag cagcttttcg gaaaatgcat ttgctgttcg gagtttaatc       480

agaagacgat tcctgcctcc gtccccggct ccttcatcgt cccatctccc ctgtctctct       540

cctggggagg cgtgaagcgg tcccgtggat agagattcat gcctgtgtcc gcgcgtgtgt       600

gcgcgcgtat aaattgccga gaaggggaaa acatcacagg acttctgcga ataccggact       660

gaaaattgta attcatctgc cgccgccgct gccaaaaaaa aactcgagct cttgagatct       720

ccggttggga ttcctgcgga ttgacatttc tgtgaagcag aagtctggga atcgatctgg       780

aaatcctcct aattttact ccctctcccc ccgactcctg attcattggg aagtttcaaa       840

tcagctataa ctggagagtg ctgaagattg atgggatcgt tgccttatgc atttgttttg       900

gttttacaaa aaggaaactt gacagaggat catgctgtac ttaaaaaata caagtaagtc       960

tcgcacagga aattggttta atgtaacttt caatggaaac ctttgagatt ttttacttaa      1020

agtgcattcg agtaaattta atttccaggc agcttaatac attgttttta gccgtgttac      1080

ttgtagtgtg tatgccctgc tttcactcag tgtgtacagg gaaacgcacc tgatttttta      1140

cttattagtt tgttttttct ttaacctttc agcatcacag aggaagtaga ctgatattaa      1200

caatacttac taataataac gtgcctcatg aaataaagat ccgaaaggaa ttggaataaa      1260

aatttcctgc gtctcatgcc aagagggaaa caccagaatc aagtgttccg cgtgattgaa      1320

gacacccct cgtccaagaa tgcaaagcac atccaataaa atagctggat tataactcct      1380

cttctttctc tggggccgt ggggtgggag ctggggcgag aggtgccgtt ggcccccgtt      1440

gcttttcctc tgggaaggat ggcgcacgct gggagaacgg ggtacgacaa ccgggagata      1500

gtgatgaagt acatccatta taagctgtcg cagaggggct acgagtggga tgcgggagat      1560

gtgggcgccg cgcccccggg ggccgccccc gcaccgggca tcttctcctc ccagcccggg      1620

cacacgcccc atccagccgc atcccgcgac ccggtcgcca ggacctcgcc gctgcagacc      1680

ccggctgccc ccggcgccgc gcgggggcct gcgctcagcc cggtgccacc tgtggtccac      1740

ctggccctcc gccaagccgg cgacgacttc tcccgccgct accgcggcga cttcgccgag      1800
```

-4-

```
atgtccagcc agctgcacct gacgcccttc accgcgcggg gacgctttgc cacggtggtg    1860

gaggagctct tcagggacgg ggtgaactgg gggaggattg tggccttctt tgagttcggt    1920

ggggtcatgt gtgtggagag cgtcaaccgg gagatgtcgc ccctggtgga caacatcgcc    1980

ctgtggatga ctgagtacct gaaccggcac ctgcacacct ggatccagga taacggaggc    2040

tgggatgcct ttgtggaact gtacggcccc agcatgcggc ctctgtttga tttctcctgg    2100

ctgtctctga agactctgct cagtttggcc ctggtgggag cttgcatcac cctgggtgcc    2160

tatctgagcc acaagtgaag tcaacatgcc tgccccaaac aaatatgcaa aaggttcact    2220

aaagcagtag aaataatatg cattgtcagt gatgtaccat gaaacaaagc tgcaggctgt    2280

ttaagaaaaa ataacacaca tataaacatc acacacacag acagacacac acacacacaa    2340

caattaacag tcttcaggca aaacgtcgaa tcagctattt actgccaaag ggaaatatca    2400

tttatttttt acattattaa gaaaaaagat ttatttattt aagacagtcc catcaaaact    2460

ccgtctttgg aaatccgacc actaattgcc aaacaccgct tcgtgtggct ccacctggat    2520

gttctgtgcc tgtaaacata gattcgcttt ccatgttgtt ggccggatca ccatctgaag    2580

agcagacgga tggaaaaagg acctgatcat tggggaagct ggctttctgg ctgctggagg    2640

ctggggagaa ggtgttcatt cacttgcatt tctttgccct gggggcgtga tattaacaga    2700

gggagggttc ccgtgggggg aagtccatgc ctccctggcc tgaagaagag actctttgca    2760

tatgactcac atgatgcata cctggtggga ggaaaagagt tgggaacttc agatggacct    2820

agtacccact gagatttcca cgccgaagga cagcgatggg aaaaatgccc ttaaatcata    2880

ggaaagtatt tttttaagct accaattgtg ccgagaaaag cattttagca atttatacaa    2940

tatcatccag taccttaaac cctgattgtg tatattcata tattttggat acgcacccccc    3000

caactcccaa tactggctct gtctgagtaa gaaacagaat cctctggaac ttgaggaagt    3060

gaacatttcg gtgacttccg atcaggaagg ctagagttac ccagagcatc aggccgccac    3120

aagtgcctgc ttttaggaga ccgaagtccg cagaacctac ctgtgtccca gcttggaggc    3180

ctggtcctgg aactgagccg ggccctcact ggcctcctcc aggatgatc aacagggtag     3240

tgtggtctcc gaatgtctgg aagctgatgg atggagctca gaattccact gtcaagaaag    3300

agcagtagag gggtgtggct gggcctgtca ccctggggcc ctccaggtag gcccgttttc    3360

acgtggagca taggagccac gacccttctt aagacatgta tcactgtaga gggaaggaac    3420

agaggccctg ggccttccta tcagaaggac atggtgaagg ctgggaacgt gaggagaggc    3480

aatggccacg gcccattttg gctgtagcac atggcacgtt ggctgtgtgg ccttggccac    3540

ctgtgagttt aaagcaaggc tttaaatgac tttggagagg gtcacaaatc ctaaaagaag    3600

cattgaagtg aggtgtcatg gattaattga cccctgtcta tggaattaca tgtaaaacat    3660
```

```
tatcttgtca ctgtagtttg gttttatttg aaaacctgac aaaaaaaaag ttccaggtgt    3720

ggaatatggg ggttatctgt acatcctggg gcattaaaaa aaaatcaatg gtggggaact    3780

ataaagaagt aacaaaagaa gtgacatctt cagcaaataa actaggaaat ttttttttct    3840

tccagtttag aatcagcctt gaaacattga tggaataact ctgtggcatt attgcattat    3900

ataccattta tctgtattaa ctttggaatg tactctgttc aatgtttaat gctgtggttg    3960

atatttcgaa agctgcttta aaaaaataca tgcatctcag cgtttttttg tttttaattg    4020

tatttagtta tggcctatac actatttgtg agcaaaggtg atcgttttct gtttgagatt    4080

tttatctctt gattcttcaa aagcattctg agaaggtgag ataagccctg agtctcagct    4140

acctaagaaa aacctggatg tcactggcca ctgaggagct ttgtttcaac caagtcatgt    4200

gcatttccac gtcaacagaa ttgtttattg tgacagttat atctgttgtc cctttgacct    4260

tgtttcttga aggtttcctc gtccctgggc aattccgcat ttaattcatg gtattcagga    4320

ttacatgcat gtttggttaa acccatgaga ttcattcagt taaaaatcca gatggcgaat    4380

gaccagcaga ttcaaatcta tggtggtttg acctttagag agttgcttta cgtggcctgt    4440

ttcaacacag acccacccag agccctcctg ccctccttcc gcgggggctt tctcatggct    4500

gtccttcagg gtcttcctga aatgcagtgg tcgttacgct ccaccaagaa agcaggaaac    4560

ctgtggtatg aagccagacc tccccggcgg gcctcaggga acagaatgat cagacctttg    4620

aatgattcta atttttaagc aaaatattat tttatgaaag gtttacattg tcaaagtgat    4680

gaatatggaa tatccaatcc tgtgctgcta tcctgccaaa atcattttaa tggagtcagt    4740

ttgcagtatg ctccacgtgg taagatcctc caagctgctt tagaagtaac aatgaagaac    4800

gtggacgttt ttaatataaa gcctgttttg tcttttgttg ttgttcaaac gggattcaca    4860

gagtatttga aaaatgtata tatattaaga ggtcacgggg gctaattgct agctggctgc    4920

cttttgctgt ggggttttgt tacctggttt taataacagt aaatgtgccc agcctcttgg    4980

ccccagaact gtacagtatt gtggctgcac ttgctctaag agtagttgat gttgcatttt    5040

ccttattgtt aaaaacatgt tagaagcaat gaatgtatat aaaagc                  5086


<210>   20
<211>   717
<212>   DNA
<213>   Homo sapiens

<400>   20

atggcgcacg ctgggagaac ggggtacgac aaccgggaga tagtgatgaa gtacatccat    60

tataagctgt cgcagagggg ctacgagtgg gatgcgggag atgtgggcgc cgcgcccccg   120
```

-6-

ggggccgccc ccgcaccggg catcttctcc tcccagcccg ggcacacgcc ccatccagcc 180

gcatcccgcg acccggtcgc caggacctcg ccgctgcaga ccccggctgc ccccggcgcc 240

gccgcggggc ctgcgctcag cccggtgcca cctgtggtcc acctggccct ccgccaagcc 300

ggcgacgact tctcccgccg ctaccgcggc gacttcgccg agatgtccag ccagctgcac 360

ctgacgccct tcaccgcgcg gggacgcttt gccacggtgg tggaggagct cttcagggac 420

ggggtgaact ggggggaggat tgtggccttc tttgagttcg gtggggtcat gtgtgtggag 480

agcgtcaacc gggagatgtc gcccctggtg gacaacatcg ccctgtggat gactgagtac 540

ctgaaccggc acctgcacac ctggatccag gataacggag ctgggatgc ctttgtggaa 600

ctgtacggcc ccagcatgcg gcctctgttt gatttctcct ggctgtctct gaagactctg 660

ctcagtttgg ccctggtggg agcttgcatc accctgggtg cctatctgag ccacaag 717

<210> 21
<211> 239
<212> PRT
<213> Homo sapiens

<400> 21

Met Ala His Ala Gly Arg Thr Gly Tyr Asp Asn Arg Glu Ile Val Met
1   5   10   15

Lys Tyr Ile His Tyr Lys Leu Ser Gln Arg Gly Tyr Glu Trp Asp Ala
            20   25   30

Gly Asp Val Gly Ala Ala Pro Pro Gly Ala Ala Pro Ala Pro Gly Ile
        35   40   45

Phe Ser Ser Gln Pro Gly His Thr Pro His Pro Ala Ala Ser Arg Asp
    50   55   60

Pro Val Ala Arg Thr Ser Pro Leu Gln Thr Pro Ala Ala Pro Gly Ala
65   70   75   80

Ala Ala Gly Pro Ala Leu Ser Pro Val Pro Pro Val Val His Leu Ala
                85   90   95

Leu Arg Gln Ala Gly Asp Asp Phe Ser Arg Arg Tyr Arg Gly Asp Phe
                100   105   110

Ala Glu Met Ser Ser Gln Leu His Leu Thr Pro Phe Thr Ala Arg Gly
            115   120   125

Arg Phe Ala Thr Val Val Glu Glu Leu Phe Arg Asp Gly Val Asn Trp
        130   135   140

Gly Arg Ile Val Ala Phe Phe Glu Phe Gly Gly Val Met Cys Val Glu
145   150   155   160

Ser Val Asn Arg Glu Met Ser Pro Leu Val Asp Asn Ile Ala Leu Trp
                165   170   175

-7-

```
Met Thr Glu Tyr Leu Asn Arg His Leu His Thr Trp Ile Gln Asp Asn
            180                 185                 190

Gly Gly Trp Asp Ala Phe Val Glu Leu Tyr Gly Pro Ser Met Arg Pro
            195                 200                 205

Leu Phe Asp Phe Ser Trp Leu Ser Leu Lys Thr Leu Leu Ser Leu Ala
        210                 215                 220

Leu Val Gly Ala Cys Ile Thr Leu Gly Ala Tyr Leu Ser His Lys
225                 230                 235
```

```
<210>   22
<211>   615
<212>   DNA
<213>   Homo sapiens

<400>   22

atggcgcacg ctgggagaac ggggtacgac aaccgggaga tagtgatgaa gtacatccat 60

tataagctgt cgcagagggg ctacgagtgg gatgcgggag atgtgggcgc cgcgcccccg 120

ggggccgccc ccgcaccggg catcttctcc tcccagcccg gcacacgcc ccatccagcc 180

gcatcccgcg acccggtcgc caggacctcg ccgctgcaga ccccggctgc ccccggcgcc 240

gccgcggggc ctgcgctcag cccggtgcca cctgtggtcc acctggccct ccgccaagcc 300

ggcgacgact tctcccgccg ctaccgcggc gacttcgccg agatgtccag ccagctgcac 360

ctgacgccct tcaccgcgcg gggacgcttt gccacggtgg tggaggagct cttcagggac 420

ggggtgaact gggggaggat tgtggccttc tttgagttcg gtggggtcat gtgtgtggag 480

agcgtcaacc gggagatgtc gcccctggtg acaacatcg ccctgtggat gactgagtac 540

ctgaaccggc acctgcacac ctggatccag gataacggag ctgggtagg tgcatctggt 600

gatgtgagtc tgggc                                                 615
```

```
<210>   23
<211>   205
<212>   PRT
<213>   Homo sapiens

<400>   23
```

```
Met Ala His Ala Gly Arg Thr Gly Tyr Asp Asn Arg Glu Ile Val Met
1               5                   10                  15

Lys Tyr Ile His Tyr Lys Leu Ser Gln Arg Gly Tyr Glu Trp Asp Ala
            20                  25                  30

Gly Asp Val Gly Ala Ala Pro Pro Gly Ala Ala Pro Ala Pro Gly Ile
            35                  40                  45

Phe Ser Ser Gln Pro Gly His Thr Pro His Pro Ala Ala Ser Arg Asp
        50                  55                  60

Pro Val Ala Arg Thr Ser Pro Leu Gln Thr Pro Ala Ala Pro Gly Ala
```

Ala Ala Gly Pro Ala Leu Ser Pro Val Pro Pro Val Val His Leu Ala
                85   90   95

Leu Arg Gln Ala Gly Asp Asp Phe Ser Arg Arg Tyr Arg Gly Asp Phe
                100   105   110

Ala Glu Met Ser Ser Gln Leu His Leu Thr Pro Phe Thr Ala Arg Gly
            115   120   125

Arg Phe Ala Thr Val Val Glu Glu Leu Phe Arg Asp Gly Val Asn Trp
        130   135   140

Gly Arg Ile Val Ala Phe Phe Glu Phe Gly Gly Val Met Cys Val Glu
145   150   155   160

Ser Val Asn Arg Glu Met Ser Pro Leu Val Asp Asn Ile Ala Leu Trp
                165   170   175

Met Thr Glu Tyr Leu Asn Arg His Leu His Thr Trp Ile Gln Asp Asn
            180   185   190

Gly Gly Trp Val Gly Ala Ser Gly Asp Val Ser Leu Gly
        195   200   205

<210>   24
<211>   18
<212>   DNA
<213>   Homo sapiens

<400>   24
tctcccagcg tgcgccat   18

<210>   25
<211>   18
<212>   DNA
<213>   Homo sapiens

<400>   25
tgcactcacg ctcggcct   18

<210>   26
<211>   20
<212>   DNA
<213>   Homo sapiens

<400>   26
gcgcggcggg cgggcgggca   20

<210>   27
<211>   20
<212>   DNA
<213>   Homo sapiens

<400>   27
gggcggaggc cggccggcgg   20

<210>   28
<211>   20
<212>   DNA

<213>   Homo sapiens

<400>   28
agcggcggcg gcggcagcgc   20

<210>   29
<211>   20
<212>   DNA
<213>   Homo sapiens

<400>   29
gggccgggaa gggcgcccgc   20